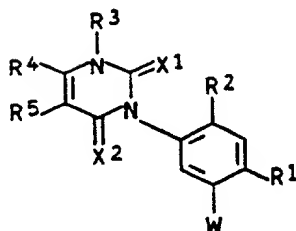


We claim:

1. Substituted 3-phenyluracils of the general formula I



I

5 where

X^1 and X^2 are each oxygen or sulfur;

W is $-C(R^8)=X^5$, $-C(R^8)(X^3R^6)(X^4R^7)$, $-C(R^8)=C(R^9)-CN$,

$-C(R^8)=C(R^9)-CO-R^{10}$, $-CH(R^8)-CH(R^9)-CO-R^{10}$,

$-C(R^8)=C(R^9)-CH_2-CO-R^{10}$, $-C(R^8)=C(R^9)-C(R^{11})=C(R^{12})-CO-R^{10}$ or

10 $-C(R^8)=C(R^9)-CH_2-CH(R^{13})-CO-R^{10}$ where

X^3 and X^4 are each oxygen or sulfur;

X^5 is oxygen, sulfur or a radical- NR^{14} ;

R^{14} is hydrogen, hydroxyl, C_1-C_6 -alkyl, C_3-C_6 -alkenyl,

C_3-C_6 -alkynyl, C_3-C_7 -cycloalkyl, C_1-C_6 -haloalkyl, C_1-

15 C_6 -alkoxy- C_1-C_6 -alkyl, C_1-C_6 -alkoxy, C_3-C_6 -alkenyloxy,

C_3-C_6 -alkynyloxy, C_5-C_7 -cycloalkoxy, C_5-C_7 -cyclo-

alkenyloxy, C_1-C_6 -haloalkoxy, C_3-C_6 -haloalkenyloxy,

hydroxy- C_1-C_6 -alkoxy, cyano- C_1-C_6 -alkoxy, C_3-C_7 -cyclo-

alkyl- C_1-C_6 -alkoxy, C_1-C_6 -alkoxy- C_1-C_6 -alkoxy, C_1-C_6 -

20 alkoxy- C_3-C_6 -alkenyloxy, C_1-C_6 -alkylcarbonyloxy, C_1-

C_6 -haloalkylcarbonyloxy, C_1-C_6 -alkylcarbonyloxy, C_1-

C_6 -haloalkylcarbonyloxy, C_1-C_6 -alkoxycarbonyl- C_2-C_6 -

alkoxy, C_1-C_6 -alkylthio- C_1-C_6 -alkoxy, di- C_1-C_6 -alkyl-

amino- C_1-C_6 -alkoxy, phenyl which may carry from one

25 to three of the following substituents: cyano,

nitro, halogen, C_1-C_6 -alkyl, C_2-C_6 -alkenyl, C_1-C_6 -

haloalkyl, C_1-C_6 -alkoxy and C_1-C_6 -alkoxycarbonyl,

phenyl- C_1-C_6 -alkoxy, phenyl- C_3-C_6 -alkenyloxy or

phenyl- C_3-C_6 -alkynyloxy, where one or two methylene

30 groups of each of the carbon chains may be replaced

with $-O-$, $-S-$ or $-N(C_1-C_6-alkyl)-$ and each phenyl

- ring may carry from one to three of the following substituents: cyano, nitro, halogen, C_1-C_6 -alkyl, C_2-C_6 -alkenyl, C_1-C_6 -haloalkyl, C_1-C_6 -alkoxy, C_1-C_6 -alkoxycarbonyl, heterocyclyl, heterocyclyl- C_1-C_6 -alkoxy, heterocyclyl- C_3-C_6 -alkenyloxy or heterocyclyl- C_3-C_6 -alkynyloxy, where one or two methylene groups of each of the carbon chains may be replaced with -O-, -S- or -N(C_1-C_6 -alkyl)- and the heterocyclyl ring may be from three-membered to seven-membered and saturated, unsaturated or aromatic and may contain from one to four hetero atoms selected from a group consisting of one or two oxygen or sulfur atoms and up to four nitrogen atoms and furthermore may carry from one to three of the following substituents: cyano, nitro, halogen, C_1-C_6 -alkyl, C_2-C_6 -alkenyl, C_1-C_6 -haloalkyl, C_1-C_6 -alkoxy or C_1-C_6 -alkoxycarbonyl, or -N(R^{15}) R^{16} , where R^{15} and R^{16} are each hydrogen, C_1-C_6 -alkyl, C_3-C_6 -alkenyl, C_3-C_6 -alkynyl, C_3-C_6 -cycloalkyl, C_1-C_6 -haloalkyl, C_1-C_6 -alkoxy- C_1-C_6 -alkyl, C_1-C_6 -alkylcarbonyl, C_1-C_6 -alkoxycarbonyl, C_1-C_6 -alkoxycarbonyl- C_1-C_6 -alkyl or C_1-C_6 -alkoxycarbonyl- C_2-C_6 -alkenyl, where the alkenyl chain may additionally carry from one to three of the following radicals: halogen and cyano or phenyl which may carry from one to three of the following substituents: cyano, nitro, halogen, C_1-C_6 -alkyl, C_1-C_6 -haloalkyl, C_3-C_6 -alkenyl, C_1-C_6 -alkoxy and C_1-C_6 -alkoxycarbonyl, or R^{15} and R^{16} together with the common nitrogen atom form a saturated or unsaturated 4-membered to 7-membered heterocyclic structure, where one ring member may be replaced with -O-, -S-, -N=, -NH- or -N(C_1-C_6 -alkyl)-;
- R^6 and R^7 are each C_1-C_6 -alkyl, C_1-C_6 -haloalkyl, C_3-C_6 -alkenyl, C_3-C_6 -alkynyl, C_1-C_6 -alkoxy- C_1-C_6 -alkyl, or R^6 and R^7 together form a saturated or unsaturated,

two-membered to four-membered carbon chain which may carry an oxo substituent, where one member of this chain may be replaced with an oxygen, sulfur or nitrogen atom which is not adjacent to X^3 and X^4 , and where the chain may carry from one to three of the following radicals: cyano, nitro, amino, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -alkoxy, C_2 - C_6 -alkenyloxy, C_2 - C_6 -alkynyloxy, C_1 - C_6 -haloalkyl, cyano- C_1 - C_6 -alkyl, hydroxy- C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy- C_1 - C_6 -alkyl, C_3 - C_6 -alkenyloxy- C_1 - C_6 -alkyl, C_3 - C_6 -alkynyloxy- C_1 - C_6 -alkyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -cycloalkoxy, carboxyl, C_1 - C_6 -alkoxycarbonyl, C_1 - C_6 -alkylcarbonyl-oxy- C_1 - C_6 -alkyl and phenyl which may carry from one to three of the following radicals: halogen, cyano, nitro, amino, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -alkoxycarbonyl, and where the chain may furthermore be substituted by a fused-on or spiral-bonded three-membered to seven-membered ring, and one or two carbon atoms of this ring may be replaced with oxygen, sulfur and unsubstituted or C_1 - C_6 -alkyl-substituted nitrogen atoms and this ring may carry one or two of the following substituents: cyano, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -alkoxy, C_1 - C_6 -cyanoalkyl, C_1 - C_6 -haloalkyl and C_1 - C_6 -alkoxycarbonyl;

R^8 is hydrogen, cyano, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_1 - C_6 -haloalkyl, C_3 - C_7 -cycloalkyl, C_1 - C_6 -alkoxy- C_1 - C_6 -alkyl or C_1 - C_6 -alkoxycarbonyl;

R^9 and R^{12} are each hydrogen, cyano, halogen, C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy, halo- C_1 - C_6 -alkyl, C_1 - C_6 -alkylcarbonyl or C_1 - C_6 -alkoxycarbonyl;

R^{10} is hydrogen, $O-R^{17}$, $S-R^{17}$, C_1 - C_6 -alkyl which may furthermore carry one or two C_1 - C_6 -alkoxy substituents or R^{10} is C_3 - C_6 -alkenyl, C_3 - C_6 -alkynyl, C_1 - C_6 -haloalkyl, C_3 - C_7 -cycloalkyl, C_1 - C_6 -alkylthio- C_1 - C_6 -alkyl, C_1 - C_6 -alkylimino-oxy, $-N(R^{15})R^{16}$ or phenyl which may carry from one to three of the following substituents: cyano, nitro, halogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy or

C₁-C₆-alkoxycarbonyl,

5 R¹⁷ is hydrogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkynyl, C₃-C₇-cycloalkyl, C₁-C₆-haloalkyl, C₃-C₆-haloalkenyl, cyano-C₁-C₆-alkyl, C₁-C₆-alkoxy-C₁-C₆-alkyl, C₁-C₆-alkylthio-C₁-C₆-alkyl or C₁-C₆-alkyl-oximino-C₁-C₆-alkyl, C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylcarbonyl-C₁-C₆-alkyl, C₁-C₆-alkoxycarbonyl-C₁-C₆-alkyl, phenyl or phenyl-C₁-C₆-alkyl, where each of the phenyl radicals in turn may
10 carry from one to three of the following substituents: cyano, nitro, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₃-C₆-alkenyl, C₁-C₆-alkoxy and C₁-C₆-alkoxycarbonyl;

15 R¹¹ is hydrogen, cyano, halogen, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkynyl, C₁-C₆-alkoxy-C₁-C₆-alkyl, C₁-C₆-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, -NR¹⁸R¹⁹, where R¹⁸ and R¹⁹ have the same meanings as R¹⁵ and R¹⁶, or phenyl which may furthermore carry from one to three of the following substituents: cyano, nitro, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₃-C₆-alkenyl, C₁-C₆-alkoxy and C₁-C₆-alkoxycarbonyl;

20 R¹³ is hydrogen, cyano, C₁-C₆-alkyl or C₁-C₆-alkoxy-carbonyl;
or R⁹ and R¹⁰ together form a two-membered to five-
25 membered carbon chain in which one carbon atom may be replaced with oxygen, sulfur or unsubstituted or C₁-C₆-alkyl-substituted nitrogen;

R¹ is halogen, cyano, nitro or trifluoromethyl;

R² is hydrogen or halogen;

30 R³ is hydrogen, nitro, C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkynyl, C₃-C₈-cycloalkyl, C₃-C₈-cycloalkylcarbonyl, cyano-C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy-C₁-C₆-alkyl, formyl, C₁-C₆-alkanoyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-haloalkylcarbonyl, C₁-C₆-alkylcarbonyl-C₁-C₆-alkyl, C₁-C₆-alkoxycarbonyl-C₁-C₆-alkyl;

35 a group -N(R²⁰)R²¹, where R²⁰ and R²¹ have one of the meanings of R¹⁵ and R¹⁶;

phenyl or phenyl-C₁-C₆-alkyl, where each phenyl ring may carry from one to three of the following radicals: cyano, nitro, halogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy and C₁-C₆-alkoxycarbonyl;

5 R⁴ is hydrogen, cyano, nitro, halogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₈-cycloalkyl, C₁-C₆-haloalkyl, C₁-C₆-hydroxyalkyl, cyano-C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkoxy-C₁-C₆-alkyl, C₁-C₆-alkylthio-C₁-C₆-alkyl or phenyl which may carry from one to three of the
10 following radicals: cyano, nitro, halogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy and C₁-C₆-alkoxycarbonyl;

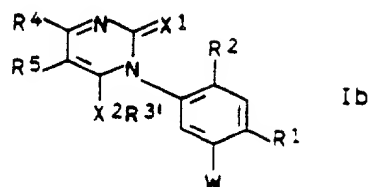
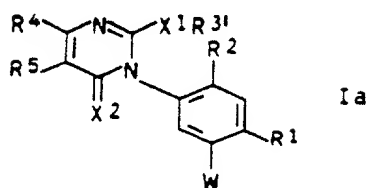
R⁵ is hydrogen, cyano, nitro, halogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₇-cycloalkyl, C₁-C₆-haloalkyl,
15 C₁-C₆-hydroxyalkyl, cyano-C₁-C₆-alkyl, C₁-C₆-alkoxy-C₁-C₆-alkyl, C₁-C₆-alkylthio-C₁-C₆-alkyl, formyl, C₁-C₆-alkyl-carbonyl, C₁-C₆-haloalkylcarbonyl, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkoxycarbonyl-C₂-C₆-alkenyl, -N(R²²)R²³, where R²² and R²³ have one of the meanings of R¹⁵ and R¹⁶, or phenyl
20 which may carry from one to three of the following radicals: cyano, nitro, halogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy and C₁-C₆-alkoxy-carbonyl, or

R⁴ and R⁵ together form a saturated or unsaturated 3-
25 membered or 4-membered carbon chain which may contain from one to three of the following hetero atoms: 1 or 2 oxygen atoms, 1 or 2 sulfur atoms and from 1 to 3 nitrogen atoms, and the chain may furthermore carry from one to three of the following radicals: cyano, nitro, amino,
30 halogen, C₁-C₆-alkyl, C₂-C₆-alkenyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio and C₁-C₆-alkoxycarbonyl;

with the proviso that R⁴ may not be trifluoromethyl at the same time as R⁵ is hydrogen when W is -CH=CH-CO-R¹⁰ where R¹⁰ is C₁-C₆-alkoxy or C₃-C₇-cycloalkoxy, and with
35 the proviso that R⁴ and R⁵ are not simultaneously hydrogen when W is CH(R⁸)-CH(R⁹)-CO-R¹⁰ and R⁹ is not halogen, and the salts and enol ethers of those compounds I in

which R³ is hydrogen.

2. Compounds of the general formula Ia or Ib



where the variables R¹, R², R⁴, R⁵, X¹, X² and W have the meanings stated in claim 1 and R^{3'} is one of the following groups: C₁-C₆-alkyl, C₃-C₆-alkenyl or C₃-C₆-alkynyl, with the proviso that R⁴ may not be trifluoromethyl at the same time as R⁵ is hydrogen when W is -CH=CH-CO-R¹⁰ where R¹⁰ is C₁-C₆-alkoxy or C₃-C₆-cycloalkoxy.

3. A compound as claimed in claim 1 or 2, wherein W is -C(R⁸)=X⁵, -C(R⁸)(X³R⁶)(X⁴R⁷), -C(R⁸)=C(R⁹)-CO-R¹⁰ or -CH(R⁸)-CH(R⁹)-CO-R¹⁰.

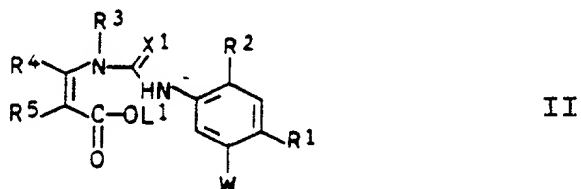
4. A compound as claimed in claim 1 or 2, wherein R³ is C₁-C₆-alkyl.

5. A compound as claimed in claim 1 or 2, wherein R² is hydrogen or fluorine.

6. A compound as claimed in claim 1 or 2, wherein R¹ is chlorine or bromine.

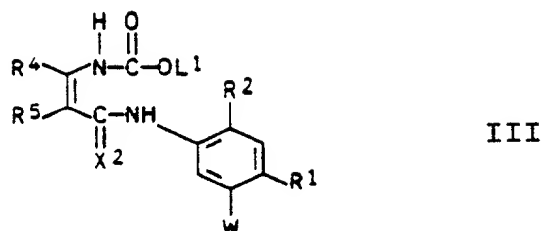
7. A compound as claimed in claim 1 or 2, wherein R⁴ is C₁-C₆-haloalkyl.

8. Enamine esters of the general formula II



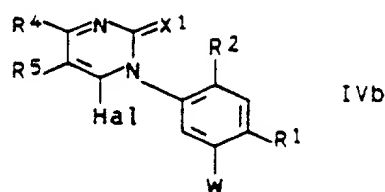
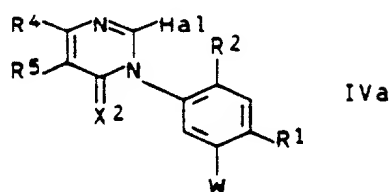
where R¹, R², R³, R⁴, R⁵, X¹ and W have the meanings stated in claim 1 and L¹ is C₁-C₆-alkyl or phenyl.

9. Enamine-carboxylates of the general formula III



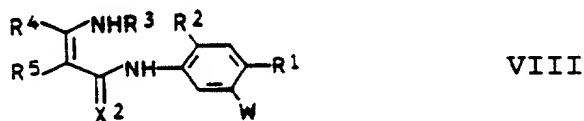
where the variables R^1 , R^2 , R^3 , R^4 , R^5 , X^2 and W have the meanings stated in claim 1 and L^1 is C_1 - C_6 -alkyl or phenyl.

- 5 10. Pyrimidinone derivatives of the general formula IVa or IVb



where the variables R^1 , R^2 , R^4 , R^5 , X^1 , X^2 and W have the meanings stated in claim 1 and Hal is halogen.

11. Enamine-amides of the formula VIII



where the variables R^1 , R^2 , R^3 , R^4 , R^5 , X^2 and W have the meanings stated in claim 1.

12. A herbicide containing an inert liquid or solid carrier and a herbicidal amount of at least one substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or a salt or an enol ether of those compounds I in which R^3 is hydrogen.

13. A method for controlling undesirable plant growth, wherein a herbicidal amount of a substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or a salt or an enol ether of those compounds I in which R^3 is

hydrogen is allowed to act on plants, on their habitat or on seed.

14. An agent for the desiccation and defoliation of plants, containing, in addition to conventional additives, an amount, having a defoliant or desiccant effect, of at least one substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or a salt or an enol ether of those compounds I in which R³ is hydrogen.

15. A method for the desiccation and defoliation of plants, wherein an amount, having a defoliant and/or desiccant effect, of a substituted 3-phenyluracil I as claimed in claim 1 or Ia or Ib as claimed in claim 2 is allowed to act on the plants.

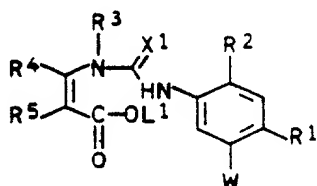
16. A method as claimed in claim 15, wherein cotton is defoliated.

17. A pesticide containing inert carriers and a pesticidal amount of at least one substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or of a salt or of an enol ether of those compounds I in which R³ is hydrogen.

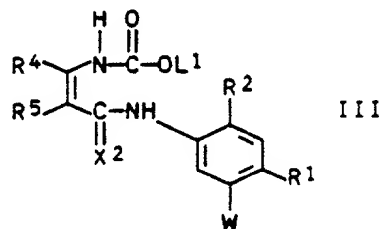
18. A method for controlling pests, wherein a pesticidal amount of a substituted 3-phenyluracil of the formula I as claimed in claim 1 or of the formula Ia or Ib as claimed in claim 2 or of a salt of an enol ether of those compounds I in which R³ is hydrogen is allowed to act on pests or their habitat.

19. A process for the preparation of a substituted 3-phenyluracil I as claimed in claim 1 or Ia or Ib as claimed in claim 2, wherein

a) an enamine ester of the formula II or an enamine-carboxylate of the formula III



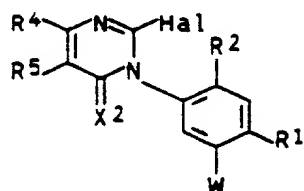
II



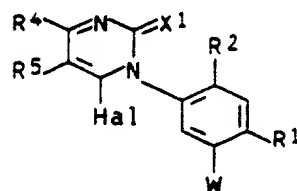
III

where L^1 is C_1 - C_6 -alkyl or phenyl, is cyclized and, if desired, the substituted 3-phenyluracil I in which R^3 is hydrogen is liberated from the resulting metal salt by means of an acid, or

- 5 b) a 3-phenyluracil I in which R^3 is hydrogen is alkylated or acylated or
 c) a 3-phenyluracil I in which R^1 is halogen is reacted with a metal cyanide or
 d) a pyrimidinone derivative of the formula IVa or IVb



IVa

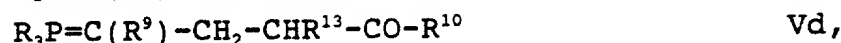
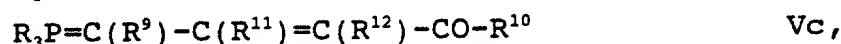
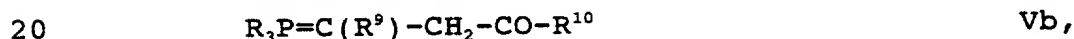


IVb

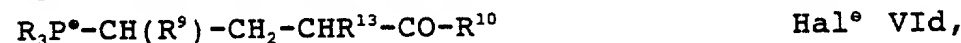
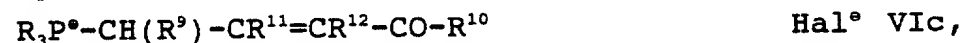
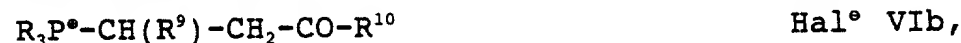
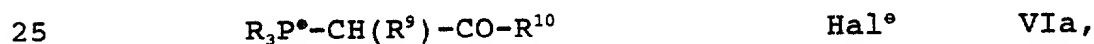
10 where Hal is halogen is reacted with a compound $HO-R^{3'}$, $HS-R^{3'}$, $Me^* \cdot OR^{3'}$ or $Me^* \cdot SR^{3'}$, where Me^* is one equivalent of a metal ion, or

- 15 e) a 3-phenyluracil I in which W is $-CO-R^8$ is acetalated with a compound $H-X^3R^6$, $H-X^4R^7$ or $H-X^3(R^6R^7)X^4-H$ or
 f) a 3-phenyluracil I in which W is $-C(R^8)(X^3R^6)(X^4R^7)$ is subjected to acetal cleavage or

- g) a 3-phenyluracil I in which W is $-C(R^8)=O$ is reacted with a phosphorylide of the formulae Va to Vd

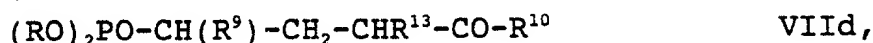
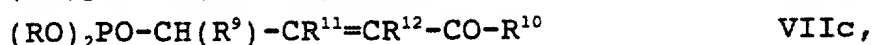
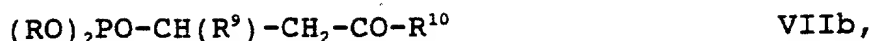


where R is a C-organic substituent, or with a phosphonium salt of the formulae VIa to VIId



30 where Hal is halogen, or with a phosphonate of the formulae VIIa to VIIId





or

- 5 h) a 3-phenyluracil I in which W is $-C(R^8)=O$ is reacted with an amine, hydroxylamine or hydrazine H_2N-R^{14} or
- i) a 3-phenyluracil I in which W is $-C(R^8)=N-R^{14}$ is cleaved to give a compound I in which W is $-C(R^8)=O$ or
- 10 k) a 3-phenyluracil I in which X^2 is oxygen is reacted with a sulfurization reagent or
- l) a 3-phenyluracil I in which R^5 is hydrogen is halogenated or
- m) a 3-phenyluracil I in which W is cyano is reduced to
- 15 n) a compound I in which W is formyl or
- o) an enamide VIII as claimed in claim 11 is cyclized with a phosgenating or thiophosgenating agent or
- p) a 3-phenyluracil I as claimed in claim 1, in which W is amino, is alkylated by the Meerwein method or
- 20 p) a 3-phenyluracil I as claimed in claim 1, in which W is bromine, iodine or $O-SO_2CF_3$, is coupled with an olefin under metal catalysis.